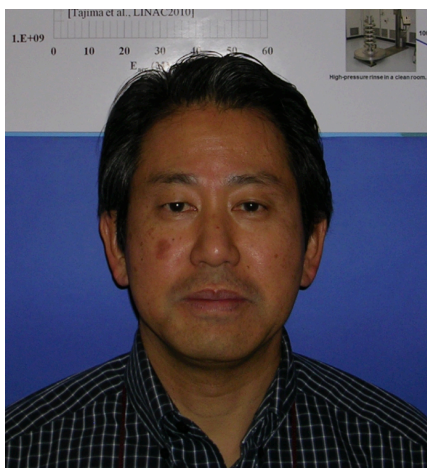
National Security Education Center

A CONSORTIUM OF LANL INSTITUTES

UNCLASSIFIED

Engineering Institute Lecture Series



Tsuyoshi Tajima
Mechanical Design Engineering (AOT-MDE)
Los Alamos National Laboratory

Success Stories of Radio-Frequency (RF) Superconductivity in the Field of Particle Accelerators

Tuesday, December 18, 2012

3:30 - 4:30 PM

Los Alamos Research Park, 2nd Floor, Conference Room 203A

Abstract: Particle accelerators are important tools for industry, government and academia. They vary in size from table-top cyclotrons to tens of kilo-meter accelerators. In the last 20 years, accelerators using superconducting materials (predominantly niobium) at 0.5 – 3 GHz RF fields have become increasingly popular due to their significantly higher energy efficiency and other benefits compared to conventional copper. This talk gives an overview of the success stories of the RF superconductivity in the field of particle accelerators and the technology development being carried out at LANL to reduce the cost and increase the reliability of superconducting RF accelerators, as well as the research to overcome the theoretical limit of niobium technology (50 MV/m accelerating gradient) and enhance the performance of SRF accelerator using coatings of superconducting films.

Biography: Tsuyoshi Tajima received a Ph.D. in Engineering in Accelerator Science from Graduate University for Advanced Studies, Kanagawa, Japan in 2000. He has been a team leader and PI for SRF structures research at LANL since May 2000 including leaves in Japan at the National Institute for Materials Science, Tsukuba, for 2 months in 2010 and at the High Energy Accelerator Research Organization (KEK), Tsukuba, for 1 year in 2011-2012 as an invited investigator. Currently, Tsuyoshi is also leading a vacuum team for the LANSCE accelerator in the accelerator operations & technology division's mechanical design & engineering group (AOT-MDE). Tsuyoshi is a recipient of the DOE early career award in 2010 and an international program committee member for the international conference on RF Superconductivity.

For more information contact the technical host Chuck Farrar, farrar@lanl.gov, 663-5330.

Los Alamos NATIONAL LABORATORY EST.1943

Hosted by the National Security Education Center Engineering Institute

Engineering Institute